

EXHIBIT D

Organ Procurement and Transplantation Network (OPTN)

How Organ Allocation Works

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More than 120,000 people in the U.S. are waiting to receive a life-giving organ transplant. We simply don't have enough donated organs to transplant everyone in need, so we balance factors of:

- justice (fair consideration of candidates' circumstances and medical needs), and
- medical utility (trying to increase the number of transplants performed and the length of time patients and organs survive).

Many factors used to match organs with patients in need are the same for all organs, but the system must accommodate some unique differences for each organ.

The First Step

Before an organ is allocated, all transplant candidates on the waiting list that are incompatible with the donor because of blood type, height, weight and other medical factors are automatically screened from any potential matches. Then, the computer application determines the order that the other candidates will receive offers, according to national policies.

Geography Plays a Part

There are 58 local donor service areas and 11 regions that are used for U.S. organ allocation. Hearts and lungs have less time to be transplanted, so we use a radius from the donor hospital instead of regions when allocating those organs.

The Right-Sized Organ

Proper organ size is critical to a successful transplant, which means that children often respond better to child-sized organs. Although pediatric candidates have their own unique scoring system, children essentially are first in line for other children's organs.

Factors in Organ Allocation

Blood type and other medical factors weigh into the allocation of every donated organ, but, other factors are unique to each organ-type.

KIDNEY

- Waiting time
- Donor/recipient immune system incompatibility
- Pediatric status
- Prior living donor
- How far from donor hospital
- Survival benefit (starting in 2015)

HEART

- Medical need
- How far from donor hospital

LUNG

- Survival benefit
- Medical urgency
- Waiting time
- Distance from donor hospital

LIVER

- Medical need
- Distance from donor hospital

Preserving organs*

Donated organs require special methods of preservation to keep them viable between the time of procurement and transplantation.

COMMON MAXIMUM ORGAN PRESERVATION TIMES

- Heart, lung: 4-6 hours
- Liver: 8-12 hours
- Pancreas: 12-18 hours
- Kidney: 24-36 hours



Every 10 minutes, someone is added to the national transplant waiting list.



On average, 20 people die each day in the U.S. while waiting for a transplant.*



One organ donor can save eight lives.

**More than 7,000 candidates died (/resources/glossary#deathspersday) in 2016 while on the wait list, or within 30 days of leaving the list for personal or medical reasons, without receiving an organ transplant.*

Organ Procurement & Transplantation Network

This is an official U.S. Government Web site managed by the Health Resources and Services Administration (<http://www.hrsa.gov>), U.S. Department of Health & Human Services (<http://www.hhs.gov/>).

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